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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,875	04/12/2004	Byoung-Woo Cho	1749.1010	1817

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EXAMINER

KAUFFMAN, BRIAN K

ART UNIT PAPER NUMBER

3765

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/821,875

Applicant(s)

CHO, BYOUNG-WOO

Examiner

Brian K. Kauffman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

One of ordinary skill in the art could interpret the language of claim 1 in more than way. The claim could be interpreted to limit the structure of all the yarns used to fabricate the mesh. Claim 1 can also be interpreted to only limit the structure one of the yarns used to fabricate the mesh. These two interpretations give rise to two different fabric structures. It is unclear as to which interpretation is intended by the applicant.

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable in so far as they are understood over Lo (6,493,880).

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In regard to claims 1-2, Lo discloses elastic headwear comprising: a head-covering portion being stretchable in at least a circumferential direction thereof having a plurality of pieces (col. 3, line 67 and col. 4, lines 1-4), at least one piece being made of a stretchable knitted mesh which comprises at least one non-covered stretch yarn and a plurality of non-stretch yarns (col.5, lines 5-11); and a sweatband (25) being stretchable in at least a circumferential direction thereof (Col. 5, lines 16-17), wherein the non-covered stretch yarn and the plurality of non-stretch yarns are provided in rows without being twisted with each other.

In regard to claims 3 and 4, Lo discloses that the non-covered stretch yarn is a spandex yarn (col. 4, lines 61-62).

In regard to claim 5, Lo discloses that the non-stretch yarns can be polyester (col. 5, lines 5-11).

In regard to claim 6, Lo discloses that the front pieces of the crown are stiffened (col. 4, lines 41-44).

In regard to claim 7, Lo discloses that a common way for adjusting the size of the cap employs an adjustable strap disposed at the back of the cap for adjustment by the wearer (col. 1, lines 15-17). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lo's apparatus by including a size adjustment member disposed on the rear pieces to further adjust the size of the crown portion since it is a common practice in the art.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lo (6,493,880).

In regard to claim 8, Lo discloses a head covering portion of a headwear comprising a first portion (12, 13) corresponding approximately to a front of a user's head; a second portion (15, 16); and a third portion (14, 17) between the first and second portions, the second and third portions comprising a stretchable knitted mesh (col. 5, lines 5-11).

The most important characteristic of the head covering is the ability to be stretchable in the circumferential direction. Lo discloses a knitted mesh (col. 5, lines 6-7) and that the head covering portion be stretchable in the circumferential direction (col. 4, lines 1-4). Lo provides a clue to one of ordinary skill in the knitting art at col. 5, lines 6 & 7 where it is mentioned that a small amount of spandex is in the weft direction. If this were weft knitted, a statement of plying of feeding along with other yarn would be provided. Since stretch warp knit fabrics primarily receive their stretch characteristics from the stretch yarns, it is interpreted that the small amount of spandex in the weft direction implies a warp knit fabric. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a warp knitted mesh to produce the head covering portions that are stretchable in the circumferential direction as disclosed by Lo since Lo provides a clue to one of ordinary skill in the art of knitting that the fabric used is warp knitted fabric.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lo (6,493,880) in view of Uno et al. (US 2004/0016041).

Lo discloses a crown portion for being worn on a head of a wearer, the crown portion including front pieces (12, 13), side pieces (14, 17), and rear pieces (15, 16)

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which form a hemispherical shape; a visor portion (18) coupled to the crown portion for blocking sunlight; and a stretchable sweatband (25) provided at an interior circumference of the crown portion, wherein the side pieces and rear pieces comprise stretchable warp knitted mesh, the stretchable warp knitted mesh comprising two non-stretch threads comprising a plurality of synthetic non-stretch yarns; and a stretch thread (col.5, lines 5-11). Uno et al. teaches that textured yarn enables the yarn to be more stretchable (paragraph 0049). Requiring the stretchable yarn to be textured would make the mesh adaptable to a wider range of sizes of heads. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lo's apparatus to require the stretch yarn to be textured as taught by Uno et al. in order to allow the hat to be adaptable to a wider range of sizes of heads.

Lo does not specifically disclose that the non-stretch threads used to fabricate the mesh utilize a plurality of non-stretch yarns. However, threads utilizing a plurality of yarns are widely used in the art. Lo also does not specifically disclose that the stretch thread is comprised of a plurality of non-stretch yarns. However, Lo does leave a clue that non-stretch yarns are used in the weft direction along with the stretch yarn. Lo discloses utilizing synthetic fiber yarn and a small amount of spandex in the weft direction (col. 5, lines 6 and 7). This implies that there are other yarns in the weft direction. Since only a small amount is stretchable, the rest of the weft yarns are not stretchable. Lo does not specify the number of non-stretch yarns for each thread, only that they exist. The instant disclosure does not provide any reason as to why more than one non-stretch yarn is required for each thread instead of just one non-stretch yarn. It

would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a plurality of non-stretch yarns in each thread since utilizing a plurality of yarns is a widely used practice in the art.

Response to Arguments

Applicant's arguments filed 6/27/05 have been fully considered but they are not persuasive.

In response to the applicant's argument that Lo's invention discloses that the front gore includes a stretchable fabric backed with a stiffening material such as nylon web, the claims do not recite anything about the construction of the front gore. Therefore, this argument is moot.

In response to the applicant's argument that Lo's invention discloses a weft knitted mesh as apposed to a warp knitted mesh, Lo provides a clue to one of ordinary skill in the knitting art at col. 5, lines 6 & 7 where it is mentioned that a small amount of spandex is in the weft direction. If this were weft knitted, a statement of plying of feeding along with other yarn would be provided. Since stretch warp knit fabrics primarily receive their stretch characteristics from the stretch yarns, it is interpreted that the small amount of spandex in the weft direction implies a warp knit fabric. Warp knit fabrics structural characteristics do not provide the inherent stretch capabilities of weft knit fabrics and rely heavily on stretch yarns for their stretchability. Further Lo uses woven fabric as an alternative, which more closely resembles warp knits than weft knits.

In response to the applicant's arguments regarding the rows being provided without being twisted with each other, woven fabrics are constructed in a north-south by

east-west configuration. Weft-knit fabrics are knit in an east-west configuration at all times. Warp knit fabrics are knit in a basic north-south direction with the needles or yarn being moved in an east-west direction. Lo relates to woven or knit fabrics with a stretch yarn in the warp direction. Since the reference is silent regarding whether weft or warp knit, both are understood as being taught by Lo. It is unclear what is being claimed differently from what is taught in Lo. A warp-knit fabric has yarns in rows going in the north-south direction and the stretch yarn is going in the east-west direction. This yarn is commonly known as "laid -in" and would necessarily not be knit with the rows of yarn in the north-south direction.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Laycock et al. (6,776,014) discloses a plurality of yarns used in a thread that are not twisted.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Kauffman whose telephone number is (571)272-4988. The examiner can normally be reached on M-F every week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on (571)272-4983. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BKK
11/9/05


DANNY WORRELL
PRIMARY EXAMINER